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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,074	02/08/2002	Gino Pavlovic	BP-65	3459

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EXAMINER

DABNEY, PHYLESHA LARVINIA

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 08/21/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

**DETAILED ACTION**

This action is in response to the application filed 8 February 2002 in which claims 1-11 are pending.

***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "sound receiver" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claims 1-11 is objected to because of the following informalities:

2. In multiple instances throughout the claims, the terms magnetostrictive and electrostrictive is used. Magnetostrictive and electrostrictive transducers operate differently; therefore, it appears that the claims are improper because there are multiple inventions to a claim.
3. It is not clear whether the sound receiver of claim 6 is a different component or whether it is the vibrating means. The examiner has assumed that it is the vibrating means since no other element is depicted for the wording in the drawings.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, and 3-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Bernstein (U.S. Patent No. 5,146,435).

Regarding claim 1, Bernstein discloses an electroacoustic transducer (figures 1-13) for an electroacoustic device, comprising: electrostrictive elements (12, 14, 16, 24, 26, 36; in their multiple representation shown in multiple embodiments; capacitive material; col. 3 lines 42-58) configured to be connected to a controllable power supply, wherein the dimensional changes of the electrostrictive elements cause changes of the inner geometry of the electroacoustic transducer.

Regarding claims 3-4, see the rejection of claim 1.

Regarding claim 5, Bernstein discloses the transducer functioning as a microphone (col. 3 lines 62-64) comprising: a control loop (cavity 14 depicted in multiple embodiments) inherently determining a voltage supplied to the electrostrictive elements to compensate manufacturing tolerances and temperature effects having a negative effect on the spacing between the electrode and diaphragm, wherein a capacitance provides the parameter for the control loop.

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Regarding claim 6, Bernstein discloses an electroacoustic transducer operating electrostatically and functioning as a microphone (col. 3 lines 62-64) comprising a sound receiver (16 in multiple representations shown in multiple embodiments) arranged between main source of sound and the microphone and determining a sound level, wherein values of the sound level measured by the sound receiver are employed for controlling a voltage supplied to the electrostrictive elements.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein (U.S. patent No. 5,146,435).

Regarding claims 2 and 8, Bernstein teaches that it is known to use piezoelectric elements (electrostrictive elements) in the construction of electroacoustic transducers (col. 1 lines 13-18), but the Bernstein reference does not specifically teach the plates used in his invention including piezoelectric materials. However, the examiner takes official notice that it is known to use piezoelectric material when constructing a electrostrictive ~~plate~~ transducer for converting acoustically energy into electrical energy. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the electrostrictive elements of Bernstein with piezoelectric material for the reasons stated above.

Regarding claim 9, Bernstein does not teach an electroacoustic transducer comprising: a sound passage wherein the electrostrictive elements release or cover the sound passage as a function of dimensional changes of the electrostrictive elements. Bernstein teaches that it is known to use piezoelectric elements (electrostrictive elements) in the construction of electroacoustic transducers (col. 1 lines 13-18) , but the Bernstein reference does not specifically teach the plates used in his invention including piezoelectric materials. However, the examiner takes official notice that it is known to use piezoelectric material when constructing a electrostrictive itive transducer for converting acoustically energy into electrical energy. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the electrostrictive elements of Bernstein with piezoelectric material for the reasons stated above. Furthermore, it is known, as stated by the application page 20 lines 17 through page 21 line 14, to use piezoelectric material which has sufficient expansion coefficient to cause the element to cover the sound passage (13, Bernstein) for obtaining the desired frequency response. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a well-known expansion type piezoelectric material in the invention of Bernstein for achieving the desired

Regarding claims 10-11, see the rejection of claim 10-11.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. \*\*\*

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Murayama et al (U. S. Patent No. 3,894,198) teaches using expandable piezoelectric material (col. 2 lines 43-60).

Schafft (U.S. Patent No. 3,749,855) teaches an electrostrictive material (col. 1 lines 9-21).

Rice et al (U.S. Patent No. 4,233,477) teaches using silicon and piezoelectric material together (Summary of Invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L Dabney whose telephone number is 703-306-5415. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**Or faxed to:**

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(703) 872-9314, for formal communications intended for entry and for informal or draft communications, please label "Proposed" or "Draft" when submitting an informal amendment.

(703) 306-0377, for customer service questions.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

PLD

May 29, 2003